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June 2, 2012

John Arbors, Jr.
Waterloo Brewing Company
401 Guadalupe St.
Austin, TX 78701

Dear Mr. Arbors:

As we agreed two months ago, I have prepared this report for your company, Waterloo Brewing. Waterloo, at present, runs a LAN, with a server and 4 dumb terminals. Currently, this system is protected with a surge suppression system, in the form of special wall receptacles, which trip a breaker if a spike occurs. There is no protection on the phone line. This report offers technical background information on an alternative power protection device designed specifically for businesses that use LANs in their day-to-day operations; that device is called an uninterruptible power supply (UPS). This report compares three of the top name brands in UPSs in a point-by point comparison and offers conclusions and final recommendations for the purchase of a UPS, as well as a glossary to help define terms that are unfamiliar.

Background on Power Supplies

To reduce the peril of losing data to power failure, many companies protect their servers with uninterruptible power supplies [4:110]. A UPS uses batteries to provide power to a connected computer in the event of a brownout or blackout. "Dirty power" is the industry term for changes, variances, and disturbances that occur during normal usage of utility provided power.

A perfect sine-wave can become system-shocking "dirty power" without notice and can cause extreme damage to data and computers alike. Other equipment nearby can produce "noise on the line" that can wreak havoc with a computing environment. IBM recently reported in a study of power sources that a typical processor encounters around 128 power problems a month [5]. These problems can be caused externally by brownouts or load switches or grid problems at the utility or caused internally by subtle disturbances from sources such as copiers, fluorescent lights, faxes or even vending machines. Spikes, surges, sags, gaps, as well as electrostatic and electromagnetic interference attack your delicate electrical environment on a daily basis. UPSs provide reliable continuous computer-grade AC power regardless of what happens to primary power sources [1;5].

Features Required by the UPS

The following section lists the requirements you described in our discussions about this project, specifically those related to the hardware now in place at Waterloo Brewing Company. You indicated that the cash outlay must be kept to between $200.00 and $400.00 and that the UPS must support the operating system already on the computer, which is Windows 3.1.

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[1] Adapted from David A. McMurrey. Online Technical Writing. Retrieved 3-30-12 from
http://www.prismnet.com/~hcexres/textbook/recomx5c.html